The Official Journal of the International Primatological Society Volume 11, 1990

International Journal of Primatology is a multidisciplinary journal devoted to basic primatology, i.e., to studies in which the primate tured as such. To this end, the journal brings together laboratory and field studies from such diverse disciplines as anatomy, anthropolethology, paleontology, psychology, sociology, and zoology. The journal publishes high-quality original articles, short articles, and ws that have been carefully refereed by experts in the field, and also publishes book reviews. The journal aims to provide a forum esearch workers and students in the field of fundamental primatology and to expedite communication between them and other scientists ested in nonhuman primates per se. A representation of an aye-aye on a title page denotes an article or book review in which threatened

ell H. Tuttle, Department of Anthropology, The University of Chicago, Chicago, Illinois

ne Altmann, The University of Chicago, Chicago, Illinois

endangered species of Primates are subjects.

. Anadu, Nigerian Conservation Foundation, Lagos, Nigeria

ane Asfaw, Ministry of Culture and Sports Affairs, Addis Ababa, Ethiopia

stophe Boesch, Centre Suisse de Recherches Scientifique en Cote d'Ivoire, Abidjan, Republique de Cote d'Ivoire

d J. Chivers, University of Cambridge, Cambridge, England

ell L. Ciochon, The University of Iowa, Iowa City, Iowa

Cartmill (Editor Emeritus), Duke University Medical Center, Durham, North Carolina

lis Dolhinow, University of California, Berkeley, California

ıld A. Doyle (Editor Emeritus), University of the Witwatersrand, Johannesburg, South Africa

Richard Dukelow, Michigan State University, East Lansing, Michigan a M. Fedigan, University of Alberta, Edmonton, Alberta, Canada

té M. F. Galdikas, Orangutan Research and Conservation Project, Kalimantan Tengah, Indonesia

Gartlan, University of Wisconsin, Madison, Wisconsin

ie Gautier-Hion, Station Biologique de Paimpont, Plélan le Grand, France

D. Gingerich, The University of Michigan, Ann Arbor, Michigan

neth Glander, Duke University Medical Center, Durham, North Carolina

h Gouzoules, Yerkes Regional Primate Research Center, Lawrenceville, Georgia n P. Groves, Australian National University, Canberra City, Australia

I. Harcourt, University of Cambridge, Cambridge, England

fried Hohmann, Forschungsstelle für Humanethologie in der Max-Planck-Gesellschaft, Andechs, Germany

sabirye-Basuta, Makerere University Biological Field Station, Kampala, Uganda

nammed A. Isahakia, National Museums of Kenya, Nairobi, Kenya

emi Ishida, Kyoto University, Kyoto, Japan

than Marks, Yale University, New Haven, Connecticut

on Thiago de Mello, Universidade de Brasilia, Brasilia, Brazil

I W. Menzel, Jr., State University of New York at Stony Brook, Stony Brook, New York

nne T. Nash, Arizona State University, Tempe, Arizona

1 F. Oates, City University of New York, New York, New York

Yuerong, Institute of Vertebrate Paleontology and Paleoanthropology, Academia Sinica, Beijing, China

lame Berthe Rakotosamimanana, Université d'Antananarivo, Antananarivo, Madagascar

r S. Rodman, University of California, Davis, California

ne M. Rumbaugh, Georgia State University, Atlanta, Georgia itte Senut, Muséum National d'Histoire Naturelle, Paris, France

een Kumar Seth, University of Delhi, Delhi, India ille A. Smith, University of Washington, Seattle, Washington

ka Soini, Proyecto Peruano de Primates, Iquitos, Peru

poad Srikosamatara, Mahidol University, Bangkok, Thailand

en B. Strier, University of Wisconsin, Madison, Wisconsin

mas T. Struhsaker, University of Florida, Gainesville, Florida

Sugardjito, The Indonesian Institute of Sciences, Bogor, Indonesia

ert W. Sussman, Washington University, St. Louis, Missouri

ıard Tenaza, University of the Pacific, Stockton, California oline E. G. Tutin, University of Stirling, Stirling, Scotland

id P. Watts, Duke University, Durham, North Carolina

ricia C. Wright, Duke University, Durham, North Carolina

uel A. Schön Ybarra, University of Puerto Rico, San Juan, Puerto Rico

rnational Journal of Primatology is published bimonthly by Plenum Publishing Corporation, 233 Spring Street, New York, N.Y. 10013. scription orders should be addressed to the publisher. Advertising inquiries should be addressed to the Advertising Sales Representative, niel S. Lipner, Weston Media Associates, P.O. Box 1110, Greens Farms, Connecticut 06436-telephone (203) 261-2500 and fax (203) 0101. International Journal of Primatology is abstracted or indexed in Biosciences, Current Contents, Psychological Abstracts, and erativnyi Zhurnal. © 1990 Plenum Publishing Corporation. International Journal of Primatology participates in the Copyright Clear-Center (CCC) Transactional Reporting Service. The appearance of a code line at the bottom of the first page of an article in this journal cates the copyright owner's consent that copies of the article may be made for personal or internal use. However, this consent is given he condition that the copier pay the flat fee of \$6.00 per copy per article (no additional per-page fees) directly to the Copyright Clearance ter, Inc., 27 Congress Street, Salem, Massachusetts 01970, for all copying not explicitly permitted by Sections 107 or 108 of the U.S. pyright Law. The CCC is a nonprofit clearinghouse for the payment of photocopying fees by libraries and other users registered with CCC. Therefore, this consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or motional purposes, for creating new collective works, or for resale, nor to the reprinting of figures, tables, and text excerpts. 0164-0291/90

scription rates:

olume 11, 1990 (6 issues) \$170.00 (outside the U.S., \$200.00). Price for individual subscribers certifying that the journal is for their

ersonal use, \$40.00 (outside the U.S., \$50.00). olume 12, 1991 (6 issues) \$195.00 (outside the U.S., \$230.00). Price for individual subscribers certifying that the journal is for their ersonal use, \$45.00 (outside the U.S., \$55.00).

ond-class postage paid at New York, N.Y., and at additional mailing offices. Postmaster: Send address changes to International Journal Primatology, Plenum Publishing Corporation, 233 Spring Street, New York, N.Y. 10013.

International Journal of Primatology is published bimonthly by Plenum Publishing Corporation, 233 Spring Street, New York, N.Y. 10013. Subscription orders should be addressed to the publisher. Advertising inquiries should be addressed to the Advertising Sales Representative, Daniel S. Lipner, Weston Media Associates, P.O. Box 1110, Greens Farms, Connecticut 06436 - telephone (203) 261-2500 and fax (203) 261-0101. International Journal of Primatology is abstracted or indexed in Biosciences, Current Contents, Psychological Abstracts, and Referativnyi Zhurnal. © 1990 Plenum Publishing Corporation. International Journal of Primatology participates in the Copyright Clearance Center (CCC) Transactional Reporting Service. The appearance of a code line at the bottom of the first page of an article in this journal indicates the copyright owner's consent that copies of the article may be made for personal or internal use. However, this consent is given on the condition that the copier pay the flat fee of \$6.00 per copy per article (no additional per-page fees) directly to the Copyright Clearance Center, Inc., 27 Congress Street, Salem, Massachusetts 01970, for all copying not explicitly permitted by Sections 107 or 108 of the U.S. Copyright Law. The CCC is a nonprofit clearinghouse for the payment of photocopying fees by libraries and other users registered with the CCC. Therefore, this consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale, nor to the reprinting of figures, tables, and text excerpts. 0164-0291/90 \$6.00

Vol. 11, No. 1

(published September 10, 1990)

February 1990

CONTENTS

SPECIAL ISSUE: Primate Socioecology, Communication, and Hominid Evolution, Part I

Introduction: Current Studies on Primate Socioecology and

Evolution	1
Irven DeVore	
New World Primates, New Frontiers: Insights from the Woolly Spider Monkey, or Muriqui (<i>Brachyteles arachnoides</i>) Karen B. Strier	7
Ecology of Gorillas and Its Relation to Female Transfer in Mountain Gorillas David P. Watts	21
Fission-Fusion Social Organization in Ateles and Pan M. McFarland Symington	47
A Comparative Perspective on the Evolution of Tamarin and Marmoset Social Systems Anne Wilson Goldizen	63
Book Review: Peacemaking Among Primates	85

Vol. 11, No. 2

(published September 10, 1990)

April 1990

CONTENTS

SPECIAL ISSUE: Primate Socioecology, Communication, and Hominid Evolution, Part II

Patterns of Paternal Care in Primates Patricia C. Wright	89
Experimental Field Studies of Asian Ape Social Systems John C. Mitani	103
Humans as Primates: The Social Relationships of Efe Pygmy Men in Comparative Perspective Robert C. Bailey and Robert Aunger	127
Social Relationships and Ritualized Greetings in Adult Male Baboons (Papio cynocephalus anubis) Barbara B. Smuts and John M. Watanabe	147

Vol. 11, No. 3

(published September 7, 1990)

June 1990

CONTENTS

SPECIAL ISSUE: Primate Socioecology, Communication, and Hominid Evolution, Part III

Human Uniqueness and Theoretical Content in	
Paleoanthropology Matt Cartmill	173
Fallacies of Progression in Theories of Brain-Size Evolution Terrence W. Deacon	193
Problems of Ontogeny and Phylogeny in Brain-Size Evolution	237

Vol. 11, No. 4 (published September 28, 1990) August 1990

CONTENTS

ANNOUNCEMENT	399
Chromosome Evolution in the Cercopithecidae and Its Relationship to Human Fragile Sites and Neoplasia I. C. Clemente, M. Ponsa, M. Garcia, and J. Egozcue	377
Social Grooming in Tonkean Macaques (Macaca tonkeana) B. Thierry, C. Gauthier, and P. Peignot	357
Patterns of Dominance and Affiliation in Wild Pig-Tailed Macaques (Macaca nemestrina nemestrina) in West Sumatra Toru Oi	339
Reactions of Wild Tamarins, Saguinus mystax and Saguinus fuscicollis to Avian Predators Eckhard W. Heymann	327
The Relationship Between Altitude and Group Size in Mountain Baboons (Papio cynocephalus ursinus) S. P. Henzi, M. L. Dyson, and A. Deenik	319
The Social Development of Free-Ranging Infant Lemur catta at Berenty Reserve, Madagascar Lisa Gould	297
Molar Enamel Thickness in European Miocene and Extant Hominoidea Konrad Nagatoshi	283

Vol. 11, No. 5

(published October 23, 1990)

October 1990

CONTENTS

Chromosome Banding Patterns of the Aye-Aye, Daubentonia madagascariensis (Primates, Daubentoniidae) P. Poorman-Allen and M. K. Izard	401
Demography of Agile Gibbons (Hylobates agilis) John C. Mitani	411
Summation in Chimpanzees (Pan troglodytes): Effects of Amounts, Number of Wells, and Finer Ratios Rachelle Pérusse and Duane M. Rumbaugh	425
The Phylogenetic Position of <i>Mahgarita stevensi:</i> Protoanthropoid or Lemuroid? D. Tab Rasmussen	439
Book Review: The Human Career: Human Biological and Cultural Origins	471
Constitution and Bylaws of the International Primatological Society	475
International Primatological Society, 1990 Officers	487
Membership List, International Primatological Society	489

Vol. 11, No. 6 (scheduled publication December 19, 1990) December 1990

CONTENTS	
The Ontogeny of Sexual Dimorphism in the Cranium of	
Bornean Orang-Utans (Pongo pygmaeus pygmaeus) as	
Detected by Principal Components Analysis	517
Thomas J. Masterson and Walter Leutenegger	317
momus J. Musierson und watter Leutenegger	
The Banded Karyotype of Cercopithecus mitis maesi Compared with	
the Karyotypes of C. albogularis samango	
* * * *	541
and C. nictitans stampflii	341
Luca Sineo	
Species Preference by Infant Macaques with Controlled	
Social Experience	553
Kazuo Fujita	
Variations in Cruropedal Musculature	575
John H. Langdon	373
John 11. Lunguon	
Book Review: A Theory of Human and Primate Evolution	607
Book Review: Le Coude des Primates Hominoïdes	611
Book Review: Machiavelian Intelligence. Social Experience and the	
Evolution of Intellect in Monkeys, Apes, and Humans	613
Book Review: Ecology and Behavior of Neotropical Primates,	
Volume 2	615
	010
Proceedings of the XIII th Congress of the International	
Primatological Society, Nagoya and Kyoto,	
Japan, July 18-24, 1990	619
supun, surj 10 21, 1990	015
Frratum	620